AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1.   (currently amended): A transmission circuit of a mobile communication terminal device of CDMA system comprising:

code generating means for generating a multi-bit code necessary for transmission;

storing means for storing value of each bit of said code generating means; and

control means for writing value of each bit at an arbitrary write timing of said code generating means, and reading the value of each bit stored in said storage means at an arbitrary read timing to set to each corresponding bit of said code generating means,

wherein said arbitrary write timing and said arbitrary read timing are based on discontinuous transmission within a code period.

2.   (currently amended): A reception circuit of a mobile communication terminal device of CDMA system comprising:

code generating means for generating a multi-bit code necessary for reception;

storing means for storing value of each bit of said code generating means; and

control means for writing value of each bit at an arbitrary write timing of said code

generating means, and reading the value of each bit stored in said storage means at an arbitrary

read timing to set setting to each corresponding bit of said code generating means,

wherein said arbitrary write timing and said arbitrary read timing are based on

discontinuous transmission within a code period.

3.   (currently amended): A transmission circuit as set forth in claim 1, wherein said

control means comprises:

means for performing a process of transmission data with a code by continuously

operating said code generating means at an initial code period after initiation of transmitting

operation or modification of a transmission code, and writing a value of each bit of said code

generating means in said storage means at a timing of leading end of each discontinuous

transmission unit period which is shorter than a said code period, in said code period;

means for reading a bit string corresponding to discontinuous transmission unit period

stored in said storage means at a timing of leading end of discontinuous transmission unit period

in second and subsequent code period to perform transmission and perform process of

transmission data with the generation code with performing code generating operation after

setting said bit storing in respectively corresponding bit of said code generating means; and

means for interrupting operation of said code generating means in the discontinuous

transmission unit period not performing transmission.

4.   (currently amended): A reception circuit as set forth in claim 2, wherein said control means comprises:

means for performing a process of reception data with a code by continuously operating said code generating means at an initial code period after initiation of receiving operation or modification of a reception code, and writing a value of each bit of said code generating means in said storage means at a timing of leading end of each discontinuous reception unit period which is shorter than a said code period, in said code period;

means for reading a bit string corresponding to discontinuous reception unit period stored in said storage means at a timing of leading end of discontinuous reception unit period in second and subsequent code period to perform reception and perform process of reception data with the generation code with performing code generating operation after setting said bit string in respectively corresponding bit of said code generating means; and

means for interrupting operation of said code generating means in the discontinuous reception unit period not performing reception.

5.   (Original): A transmission circuit as set forth in claim 3, wherein said control means controls said code generating means to operate only in a time zone performing transmission and to interrupt the operation in a time zone not performing transmission, in discontinuous transmission.

6.   Original): A reception circuit as set forth in claim 4, wherein said control means controls said code generating means to operate only in a time zone performing reception and to interrupt the operation in a time zone not performing reception, in discontinuous reception.

7.   Original): A transmission circuit as set forth in claim 1, wherein said code generating means is a shift register of multi-bit construction.

8.   (Original): A transmission circuit as set forth in claim 7, wherein said control means performs control for interrupting operation of said code generating means by performing stopping shifting operation of said shift register.

9.   Original): A reception circuit as set forth in claim 2, wherein said code generating means is a shift register of multi-bit construction.

10.   Original): A reception circuit as set forth in claim 9, wherein said control means performs control for interrupting operation of said code generating means by performing stopping shifting operation of said shift register.

11.   (currently amended): A mobile communication terminal device of CDMA system

comprising:

a transmission circuit comprising a first code generating circuit for generating a multi-bit

code necessary for transmission, a first storing device for storing value of each bit of said first

code generating circuit, and a first control device for writing value of each bit at an arbitrary <u>first</u>

<u>write</u> timing of said first code generating circuit, and reading the value of each bit stored in said

~~first~~ <u>first</u> storage device at an arbitrary <u>first read</u> timing to set to each corresponding bit of said

first code generating circuit; and

a reception circuit comprising a second code generating circuit for generating a multi-bit

code necessary for reception, a second storing device for storing value of each bit of said code

generating circuit, and a second control device for writing value of each bit at an arbitrary <u>second</u>

<u>write</u> timing of said second code generating circuit, and reading the value of each bit stored in

said second storage device at an arbitrary <u>second read</u> timing to ~~set~~ setting to each corresponding

bit of said second code generating circuit,

<u>wherein said arbitrary first write timing, said arbitrary first read timing, said arbitrary</u>

<u>second write timing and said arbitrary second read timing are based on discontinuous</u>

<u>transmission within a code period.</u>

12.   (previously presented): A mobile communication terminal device as set forth in

claim 11, wherein said first and second code generating circuits are the same circuit that is

common to said transmission circuit and said reception circuit.

13.   (currently amended): ~~A mobile communication terminal device as set forth in~~ ~~claim 12, comprises:~~ A mobile communication terminal device of CDMA system comprising:

a transmission circuit comprising a first code generating circuit for generating a multi-bit code necessary for transmission, a first storing device for storing value of each bit of said first code generating circuit, and a first control device for writing value of each bit at an arbitrary timing of said first code generating circuit, and reading the value of each bit stored in said first storage device at an arbitrary timing to set to each corresponding bit of said first code generating circuit;

a reception circuit comprising a second code generating circuit for generating a multi-bit code necessary for reception, a second storing device for storing value of each bit of said code generating circuit, and a second control device for writing value of each bit at an arbitrary timing of said second code generating circuit, and reading the value of each bit stored in said second storage device at an arbitrary timing to set setting to each corresponding bit of said second code generating circuit;

a common shift register portion constituted of shift register having smaller bit number among registers forming respective code generating circuit of said transmission circuit and reception circuit;

a remaining shift register portion constituted of remaining shift register having greater bit number among registers forming respective code generating circuit of said transmission circuit and reception circuit;

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exclusive OR circuit and shift register tap for transmission and reception for generating

respective of said code necessary for transmission and reception;

switching circuit for switching respective outputs of said exclusive OR circuit, an output

of said common shift register portion and an output of remaining shift register portion depending

upon transmission and reception,

wherein said first and second code generating circuits are the same circuit that is common

to said transmission circuit and said reception circuit.

14.   (previously presented): A mobile communication terminal device in a CDMA

system designed for interrupting transmitting operation in a discontinuous reception unit period

in a discontinuous transmission, and for interrupting receiving operation in discontinuous

transmission unit period, comprising:

a common shift register portion constituted of shift register having smaller bit number

among registers forming respective code generating circuit of a transmission circuit and

reception circuit;

a remaining shift register portion constituted of remaining shift register having greater bit

number among registers forming respective code generating circuit of said transmission circuit

and reception circuit;

exclusive OR circuit and shift register tap for transmission and reception for generating

respective of said code necessary for transmission and reception;

switching circuit for switching respective outputs of said exclusive OR circuit, an output

of said common shift register portion and an output of remaining shift register portion depending

upon transmission and reception.

15.   (currently amended): A transmission control method for a mobile communication

terminal device in CDMA system having code generating means generating a multi-bit code

necessary for transmission comprising:

a writing step of switching each bit of said code generating means at an arbitrary write

timing in a storage means; and

a reading step of reading out value of each bit stored in said storage means at an arbitrary

read timing and setting in each corresponding bit of said code generating means,

wherein said arbitrary write timing and said arbitrary read timing are based on

discontinuous transmission within a code period.

16.   (currently amended): A reception control method for a mobile communication

terminal device in CDMA system having code generating means generating a multi-bit code

necessary for reception comprising:

a writing step of switching each bit of said code generating means at an arbitrary write

timing in a storage means; and

a reading step of reading out value of each bit stored in said storage means at an arbitrary

read timing and setting in each corresponding bit of said code generating means,

wherein said arbitrary write timing and said arbitrary read timing are based on

discontinuous transmission within a code period.

17.   (currently amended): A transmission control method as set forth in claim 15,

wherein said writing step comprises:

step of performing a process of transmission data with a code by continuously operating

said code generating means at an initial code period after initiation of transmitting operation or

modification of a transmission code, and writing a value of each bit of said code generating

means in said storage means at a timing of leading end of each discontinuous transmission unit

period which is shorter than a said code period, in said code period;

said reading step comprises:

step of reading a bit string corresponding to discontinuous transmission unit period stored

in said storage means at a timing of leading end of discontinuous transmission unit period in

second and subsequent code period to perform transmission and setting said bit string in

respectively corresponding bit of said code generating means;

said transmission control method further comprises:

step of processing transmission data with the generation code with performing code

generating operation after setting said bit string in respectively corresponding bit of said code

generating means; and

step of interrupting operation of said code generating means in the discontinuous

transmission unit period not performing transmission.

18.   (original): A reception control method as set forth in claim 16, wherein said

writing step comprises:

step of performing a process of reception data with a code by continuously operating said

code generating means at an initial code period after initiation of transmitting operation or

modification of a reception code, and writing a value of each bit of said code generating means

in said storage means at a timing of leading end of each discontinuous reception unit period

which is shorter than a code period, in said code period;

said reading step comprises:

step of reading a bit string corresponding to discontinuous reception unit period stored in

said storage means at a timing of leading end of discontinuous reception unit period in second

and subsequent code period to perform reception and setting said bit string in respectively

corresponding bit of said code generating means;

said reception control method further comprises:

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step of processing reception data with the generation code with performing code

generating operation after setting said bit string in respectively corresponding bit of said code

generating means; and

step of interrupting operation of said code generating means in the discontinuous

reception unit period not performing reception.

19.   (original): A transmission control method as set forth in claim 17, wherein said

code generating means only is operated only in a time zone performing transmission and

interrupts said code generating means in a time zone not performing transmission, in

discontinuous transmission.

20.   (original): A reception control method as set forth in claim 18, wherein said code

generating means only is operated only in a time zone performing reception and interrupts said

code generating means in a time zone not performing reception, in discontinuous reception.

21.   (currently amended): A storage medium storing a control program of a

transmission control method of a mobile communication terminal device in CDMA system

having code generating means for generating multi-bit code necessary for transmission,

said program comprising:

a writing step of switching each bit of said code generating means in storage means at an

write arbitrary timing; and

a reading step of reading value of each bit stored in said storage means at an arbitrary

read timing to set in each corresponding bit of said code generating means,

wherein said arbitrary write timing and said arbitrary read timing are based on

discontinuous transmission within a code period.

22.   (currently amended): A storage medium storing a control program of a reception

control method of a mobile communication terminal device in CDMA system having code

generating means for generating multi-bit code necessary for reception,

said program comprising:

a writing step of switching each bit of said code generating means in storage means at an

arbitrary write timing; and

a reading step of reading value of each bit stored in said storage means at an arbitrary

read timing to set in each corresponding bit of said code generating means,

wherein said arbitrary write timing and said arbitrary read timing are based on

discontinuous transmission within a code period.

23.   (currently amended): A storage medium as set forth in claim 21, wherein said

writing step comprises:

step of performing a process of transmission data with a code by continuously operating

said code generating means at an initial code period after initiation of transmitting operation or

modification of a transmission code, and writing a value of each bit of said code generating

means in said storage means at a timing of leading end of each discontinuous transmission unit

period which is shorter than a~~ ~~said code period, in said code period;

said reading step comprises:

step of reading a bit string corresponding to discontinuous transmission unit period stored

in said storage means at a timing of leading end of discontinuous transmission unit period in

second and subsequent code period to perform transmission and setting said bit string in

respectively corresponding bit of said code generating means;

the program further comprises:

step of processing transmission data with the generation code with performing code

generating operation after setting said bit string in respectively corresponding bit of said code

generating means; and

step of interrupting operation of said code generating means in the discontinuous

transmission unit period not performing transmission.

24.   (currently amended): A storage medium as set forth in claim 22, wherein said

writing step comprises:

step of performing a process of reception data with a code by continuously operating said code generating means at an initial code period after initiation of transmitting operation or modification of a reception code, and writing a value of each bit of said code generating means in said storage means at a timing of leading end of each discontinuous reception unit period which is shorter than a~~ ~~said code period, in said code period;

step of reading a bit string corresponding to discontinuous reception unit period stored in said storage means at a timing of leading end of discontinuous reception unit period in second and subsequent code period to perform reception and setting said bit string in respectively corresponding bit of said code generating means;

step of processing reception data with the generation code with performing code generating operation after setting said bit string in respectively corresponding bit of said code generating means; and

step of interrupting operation of said code generating means in the discontinuous reception unit period not performing reception.

25.   (original): A storage medium as set forth in claim 23, wherein said code generating means only is operated only in a time zone performing transmission and interrupts said code generating means in a time zone not performing transmission, in discontinuous transmission.

26.   (original): A storage medium as set forth in claim 24, wherein said code

generating means only is operated only in a time zone performing reception and interrupts said

code generating means in a time zone not performing reception, in discontinuous reception.

27.   (currently amended): The transmission circuit of claim 1, wherein the code

generating means is started up at ~~an~~ said arbitrary read timing.

28.   (currently amended): The reception circuit of claim 2, wherein the code

generating means is started up at ~~an~~ said arbitrary read timing.

29.   (currently amended): The device of claim 11, wherein the first and second code

generating circuits are started up at ~~an~~ said arbitrary read timing.

30.   (currently amended): The transmission method of claim 15, wherein the code

generating means is started up at ~~an~~ said arbitrary read timing.

31.   (currently amended): The reception method of claim 16, wherein the code

generating means is started up at ~~an~~ said arbitrary read timing.

32.   (currently amended): The ~~program~~ storage medium of claim 21, wherein the code

generating means is started up at ~~an~~ said arbitrary read timing.

33.   (currently amended): The ~~program~~ storage medium of claim 22, wherein the code

generating means is started up at ~~an~~ said arbitrary read timing.